

PATENT SPECIFICATION

DRAWINGS ATTACHED

L178.549

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COMPLETE SPECIFICATION

Improvements in or relating to Space Heaters

We, SIEMENS-ELECTROGERATE GESELLSCHAFT MIT BESCHRANKTER HAFTUNG, a German company, of Berlin and Munich, Germany, do hereby declare the invention, for which we pray that a patent may be granted to us, and the method by which it is to be performed, to be particularly described in and by the following statement:—

This invention relates to space heaters.

According to the present invention there is provided an electrically operated space heater, having a fan and a single one piece elongated hollow body the longitudinal inner surface of which defines a cavity of substantially constant cross-section, in which cavity is disposed the fan and other components of the heater, i.e. a heating resistance and switching and control elements, the body having a blowing aperture closed by a grille-type shield, and being pivotably mounted on pillars disposed at each end thereof, which pillars close openings at the ends of the body.

For a better understanding of the present invention reference will now be made, by way of example, to the accompanying drawings, in which:

Figure 1 is a front view of a spacer heater,

Figure 2 is a sectional view taken along the line II—II of Figure 1,

Figure 3 is a sectional view taken along the line III—III of Figure 2,

Figure 4 is a sectional view taken along the line IV—IV of Figure 2,

Figure 4A is an enlarged view of a detail of the space heater of Figures 1 to 4,

Figure 5 is a section taken along the line V—V of Figure 2, and

Figure 6 is a side view of the space heater of Figures 1 to 5.

The space heater shown in the Figures is a fan heater and with such heaters there is often a need to vary the orientation of the heater in the room which is to be heated. The

space heater shown in the Figures has a single one-piece elongated hollow body 1 the longitudinal inner surface of which defines as shown in the Figures, a cavity of substantially constant cross-section. The body 1 forms a housing for all the functionally important components, i.e. the fan, heating resistance, switching and control elements, and the body 1 is mounted pivotably at its two ends on pillars 2 which are fixedly connected to one another by a trough-shaped web 3 which, together with the pillars 2, gives support to the heater. The pillars 2 close openings at the ends of the hollow body 1. The hollow body 1 has a part-cylindrical portion 4 in which a motor-driven transverse-flow fan 5 is fitted. In this portion 4 there are inlet slots 6 through which the room air to be heated is drawn into the body 1. The body 1 also has a substantially rectangular box-shaped portion 7 positioned downstream of the fan 5 and which accommodates a heating resistance 8 and a switch 9 and which is closed externally by a shield 10 which is constructed in the manner of a grille in the region of the heating resistance 8. A control element 11 which is combined with the switch 9 or is adapted to be adjusted independently thereof is also arranged in the portion 4 of the hollow body 1.

The shield 10 is formed of U-shaped section the concave side of which is directed towards the air stream from the fan 5. The shield 10 also has free limbs 17, having supporting angle pieces 18, which connect the free limbs 17 so that the spacing thereof is fixed and which mount the heating resistance 8. Further, supports 19 for the switch 9 and its control element 11 are provided on the limbs 17. The supporting angle pieces 18 and the supports 19, therefore, serve as fixing devices for the heating resistance 8 and the switch 9 and control element 11. The shield

[Price 5s. 0d.]

10 has in the region of its free limbs 17 resilient latches 21 which lock into notches 22 in the body 1. The latches 21 consist of resilient tabs which are bent out of the limbs 17. Thus the complete unit consisting of the resistance 8, the switch 9 and its control element 11, and the shield 10 is able to be snapped into a self-holding position within the body. The body 1 has in the region of the notches 22 apertures 23 which are used for allowing the passage of a tool through these apertures for releasing the latches 21 as, for example, when repairs are necessary. Instead of the latches 21 it is also possible to form on to the free limbs 17 projections, for example beads 24, which engage resiliently behind an edge 25 on the body 1.

The pillars 2 have annular bearing projections 12 which slidably engage in the hollow portion 4 of the body 1, so that the body 1 is pivotable within limits about a horizontal axis in the direction of the arrow shown in Figure 5 relatively to the pillars 2. Thus the direction of the air flow which is produced by the transverse-flow fan 5, the air being heated by the heating resistance 8, can be selected optionally in accordance with the angular position of the body 1 relatively to the pillars 2 within the given limits.

As Figures 3 to 6 show, the web 3 is trough-shaped and is used for receiving the heater connection lead 13. In the form shown in Figure 4, winding cores 14 for holding the heater connection lead 13 are arranged at that wall of the body 1 which constitutes the top boundary of the cavity in the web 3. Instead of these cores 14, which can also be fixed to the base of the web 3, Figure 5 shows guide ribs 15 which can be fixed to the bottom of the web 3 to facilitate the introduction of the lead 13. For receiving the heater plug 16, a chamber 26 open opposite the web 3 is formed in the body 1. Owing to the formation of the web 3 and the provision of a reception chamber 26, the connecting lead 13 with its plug 16 can be accommodated invisibly in the heater.

The self-contained unit consisting of the heating resistance, the switch and its control element, and the shield, is particularly suitable for production-line assembly, since the individual elements are united outside the body and can be inserted as a whole in the body preferably without the use of additional fixing means.

WHAT WE CLAIM IS:—

1. An electrically operated space heater, having a fan and a single one-piece elongated hollow body the longitudinal inner surface of which defines a cavity of substantially constant cross-section, in which cavity is dis-

posed the fan and other components of the heater, i.e. a heating resistance and switching and control elements, the body having a blowing aperture closed by a grille-type shield and being pivotably mounted on pillars disposed at each end thereof, which pillars close openings at the ends of the body.

2. A space heater as claimed in claim 1, wherein the pivot bearings are formed by surfaces on the hollow body and the pillars, which surfaces are slidably engaged with each other.

3. A space heater as claimed in claim 1 or 2, wherein the pillars are connected rigidly to one another by a web.

4. A space heater as claimed in claim 3, wherein the web connecting the pillars is constructed as a trough open towards the hollow body for accommodating the heater connection lead.

5. A space heater as claimed in claim 4, wherein guide ribs for the connection lead are arranged in the trough-shaped web.

6. A space heater as claimed in claim 4, wherein winding cores for holding the connection lead are arranged on the hollow body wall which closes the open side of the trough.

7. A space heater as claimed in any one of claims 4 to 6, wherein a chamber for accommodating a plug of the heater is formed in the hollow body, being open towards the trough.

8. A space heater as claimed in any one of claims 4 to 7, wherein the trough together with the pillars give support to the heater.

9. A space heater as claimed in claim 1, wherein the heating resistance and the switching and control elements form with the shield a pre-assembled self-contained unit which can be inserted in its entirety in the hollow body.

10. A space heater as claimed in claim 9, wherein the shield is formed of a U-shaped section which is open towards the fan and is perforated at the base.

11. A space heater as claimed in claim 10, wherein the free limbs of the shield are connected by supporting angle pieces which serve as fixing means for the heating resistance.

12. A space heater as claimed in claim 9, 10 or 11, wherein the self-contained unit is snapped into the body in a self-holding manner, e.g. by means of latches.

13. A space heater substantially as hereinbefore described with reference to the accompanying drawings.

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Fig.1

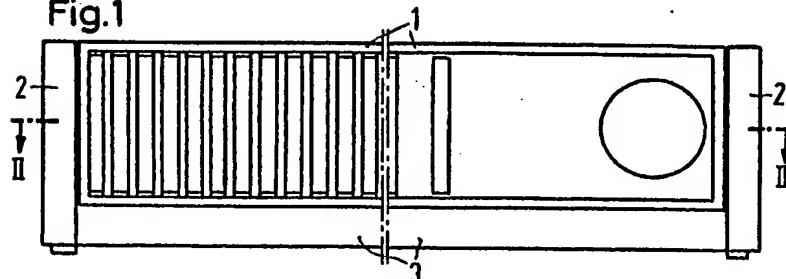


Fig. 2

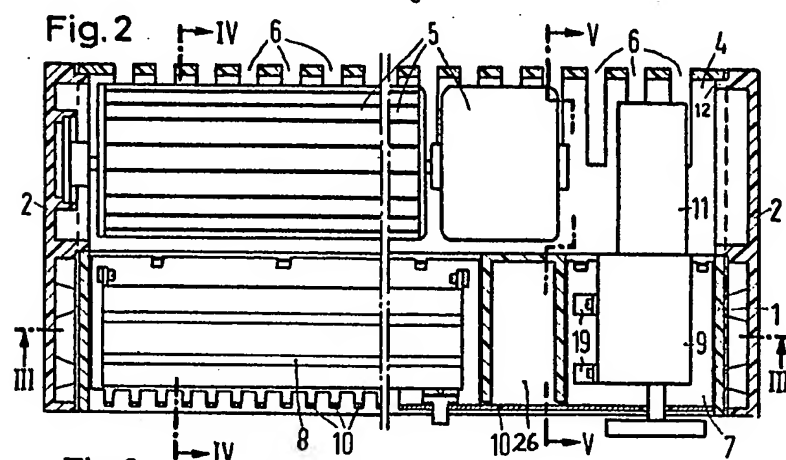
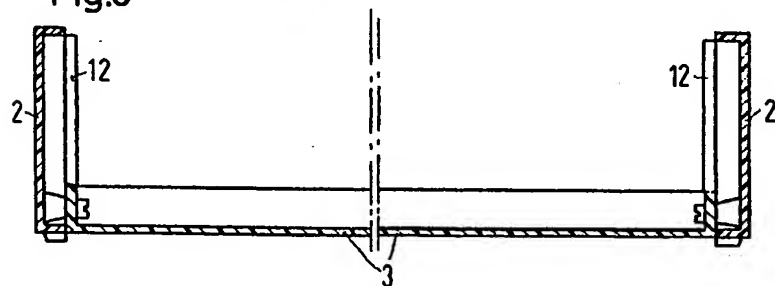


Fig.3

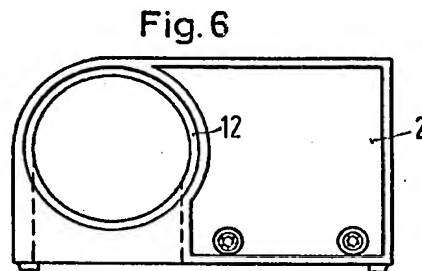
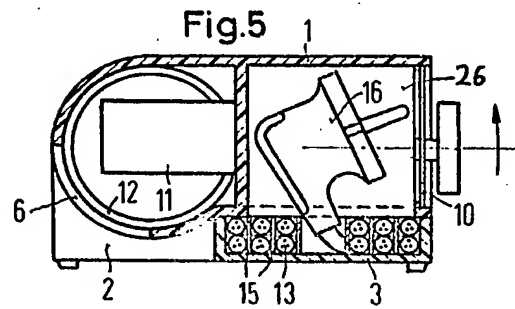
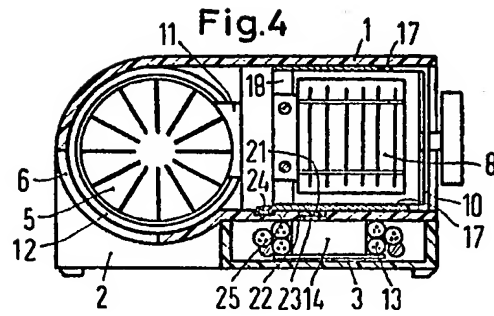


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COMPLETE SPECIFICATION

3 SHEETS

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the Original on a reduced scale
Sheet 2



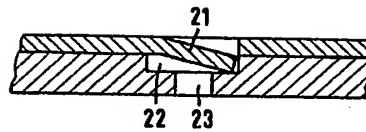


Fig.4 A